



Glenn Gordon 

Transitioning to the

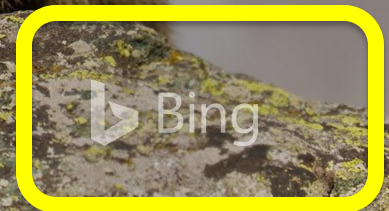
NEXT GENERATION SCIENCE STANDARDS



Meet Your Neighbor



www.bing.com



Meet Your Neighbor



Meet Your Neighbor



Meet Your Neighbor



Meet Your Neighbor



Meet Your Neighbor



Meet Your Neighbor



Meet Your Neighbor

So, what happened in the world yesterday that was “science-y”?

A photograph of three marmots sitting on a rocky ledge. They are looking towards the camera. The marmot on the right is slightly larger and has its mouth open, showing its teeth. The background is a blurred, bright outdoor setting.

Phenomena

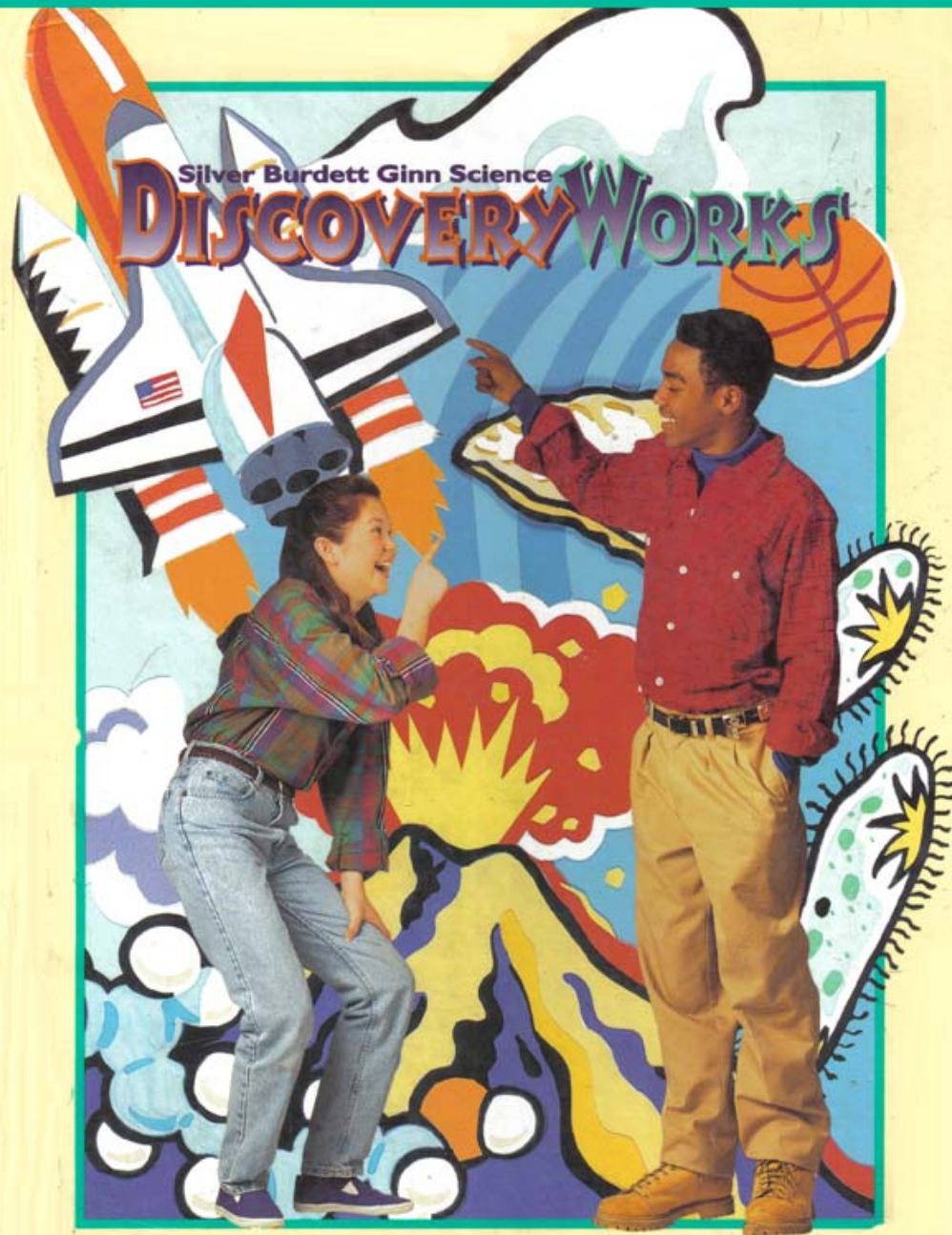
Why now?

Transitioning to the

**NEXT GENERATION
SCIENCE STANDARDS**



1996



1995



TEXT MESSAGING

becomes more popular with T9 or "predictive" typingⁱ

1996

DVDS CHANGE HOME ENTERTAINMENT WITH DIGITAL OPTIC STORAGE.ⁱⁱ



1997



NASA lands first successful Mars roverⁱⁱⁱ

1999

Toyota unveils Prius, the first **HYBRID** on the market^{iv}



Wavefront analysis makes **LASIK** corrective eye surgery more popular^v

2000

Endemic **MEASLES** are eliminated from the US^{vi}



Apple releases the **IPOD**^{vii}

2001



AN AMPUTEE USES THE FIRST ROBOTIC LIMBS OPERATED BY NERVE SIGNALS^{viii}

2003

HUMAN GENOME
Project is complete^{ix}



2005

French doctors perform the first successful **FACE TRANSPLANT**^x



2006



PLUTO is reclassified
as a dwarf planet^{xi}

2008

**HUBBLE SPACE
TELESCOPE OBSERVES
FIRST PLANET OUTSIDE OF
OUR SOLAR SYSTEM^{xii}**



2010

The first **SYNTHETIC GENOME**
for a bacterial cell is created^{xiii}

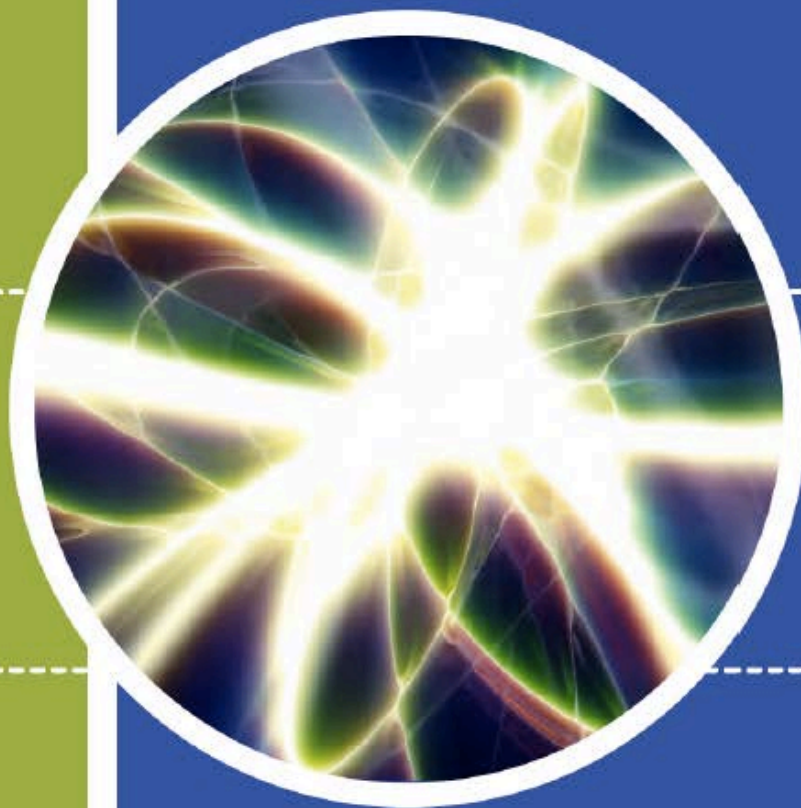


2011

IBM'S **WATSON**
wins Jeopardy!^{xiv}



2012



**CERN DISCOVERS
HIGGS BOSON**^{xv}

2014

SIX FLAGS AMERICA'S GOLIATH
becomes the fastest
wooden roller coaster in
the world at 72 mph^{xvi}

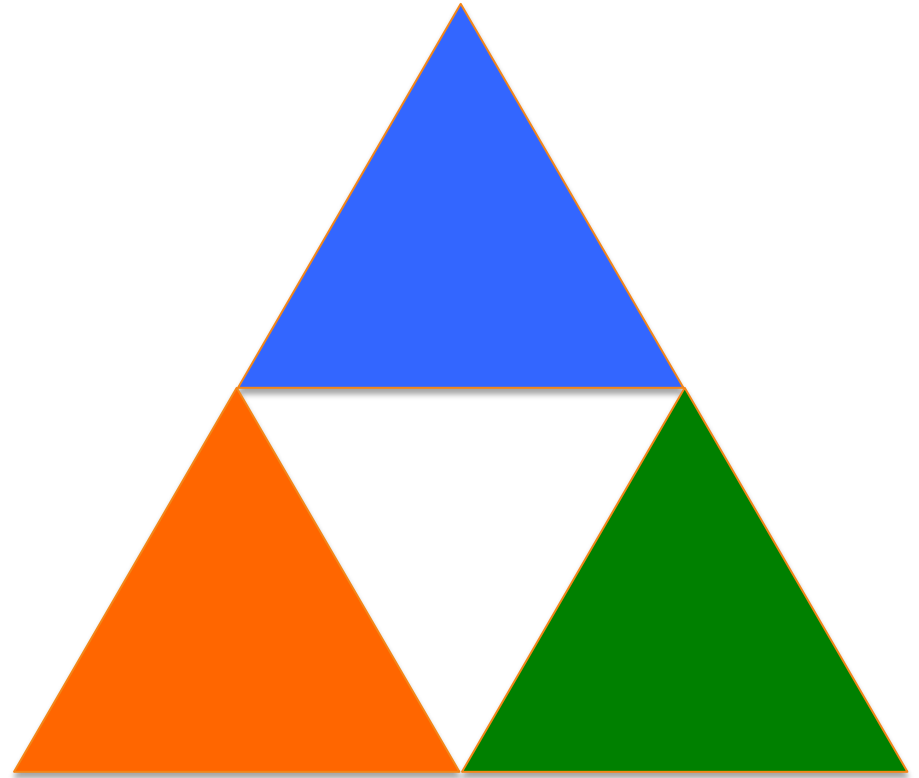




NEXT GENERATION
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STANDARDS

Some Stats

3X



*In the last 10 years, **growth in STEM jobs** has been three times greater than non-STEM jobs.*

Some Stats

61% of middle schoolers would rather take out the garbage than do their math homework.



Some Stats

2011



*Only 30% of high school graduates were **ready for college work in science.***



*Only 45% were **ready in math.***

Some Stats



*Out of every 100 9th graders,
only six graduate from
college with STEM degrees.*

Some Stats

45,000

*Washington state STEM jobs that will be filled by out-of-state employees due to a **job skills gap**.*



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STANDARDS



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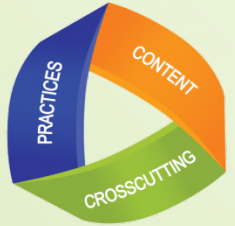
CCC

SEP

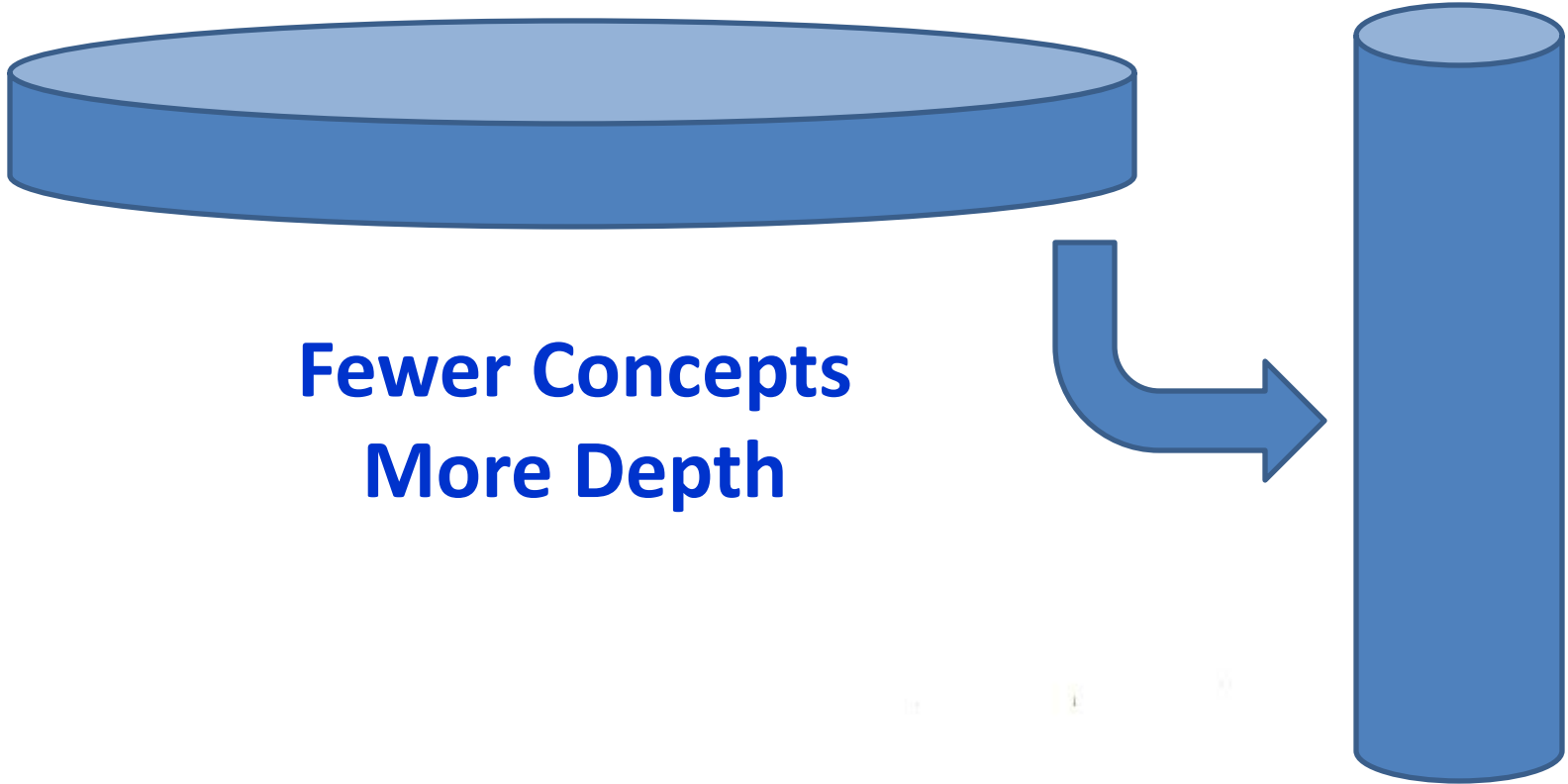
DCI

AAAS CR CCR CCSS CCC
DCI ES ESS E ELA ED
ETS FI FB GBE GDRO HI
HS IRE IVT K LS MEOE
MS NGSS NOS NSTA NRC
NSA NSE PE PS SEP SF
SFIP SPM SS STEM W WC
WER

Impact on Instruction and Learning



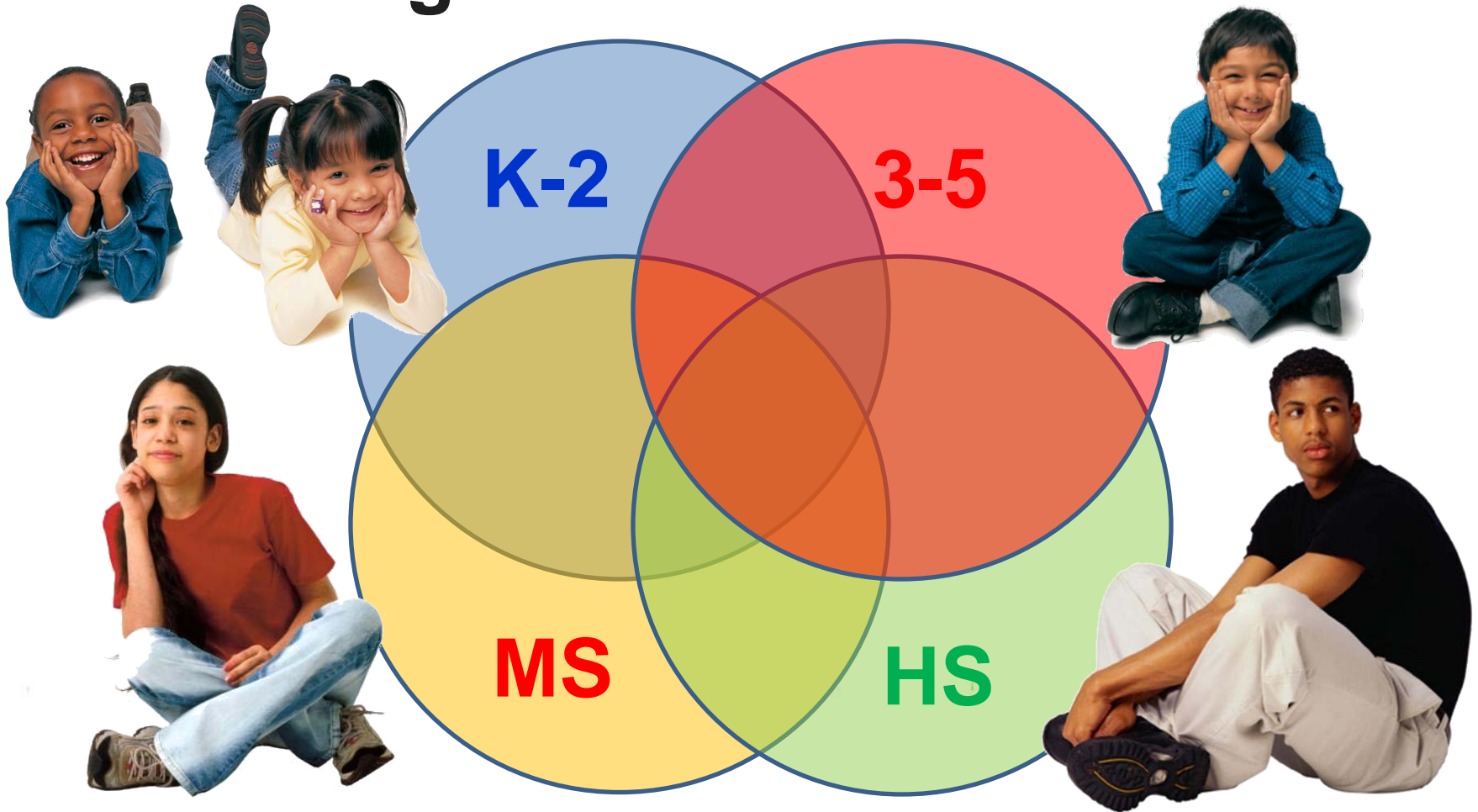
Content that is narrower but deeper



Impact on Instruction and Learning



Greater Integration Across Grade Levels



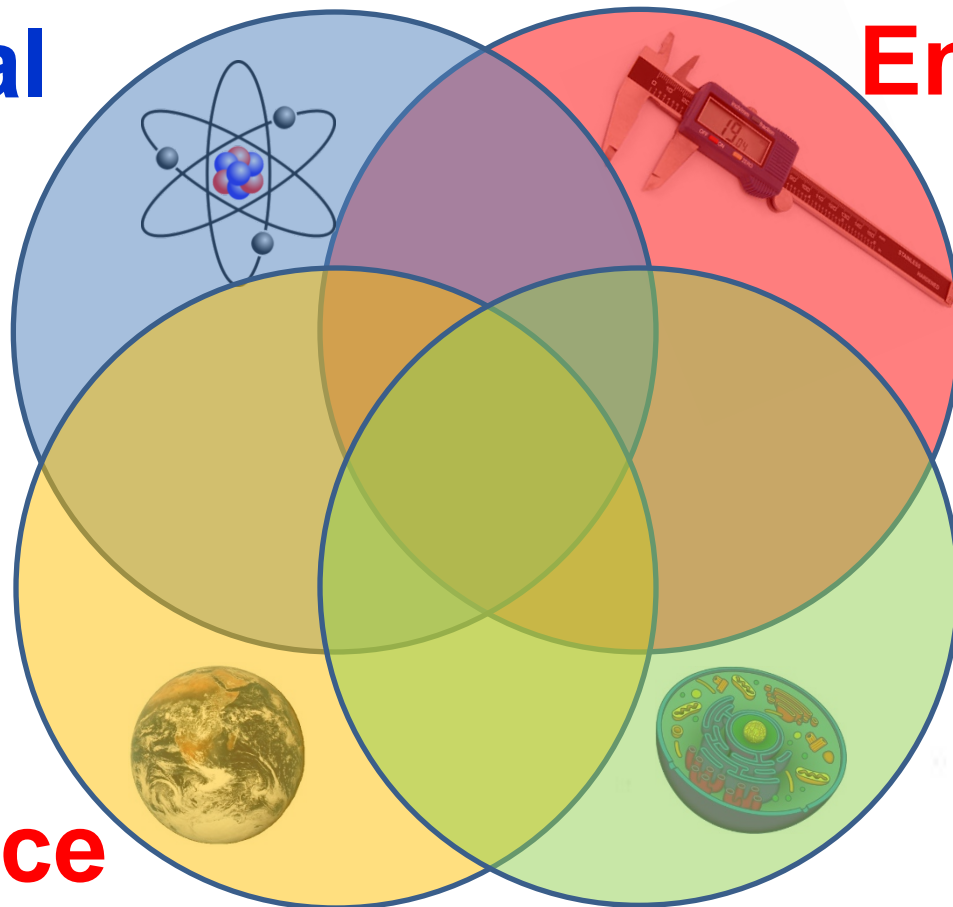
Impact on Instruction and Learning



Greater Integration Among the Sciences

Physical

Engineering



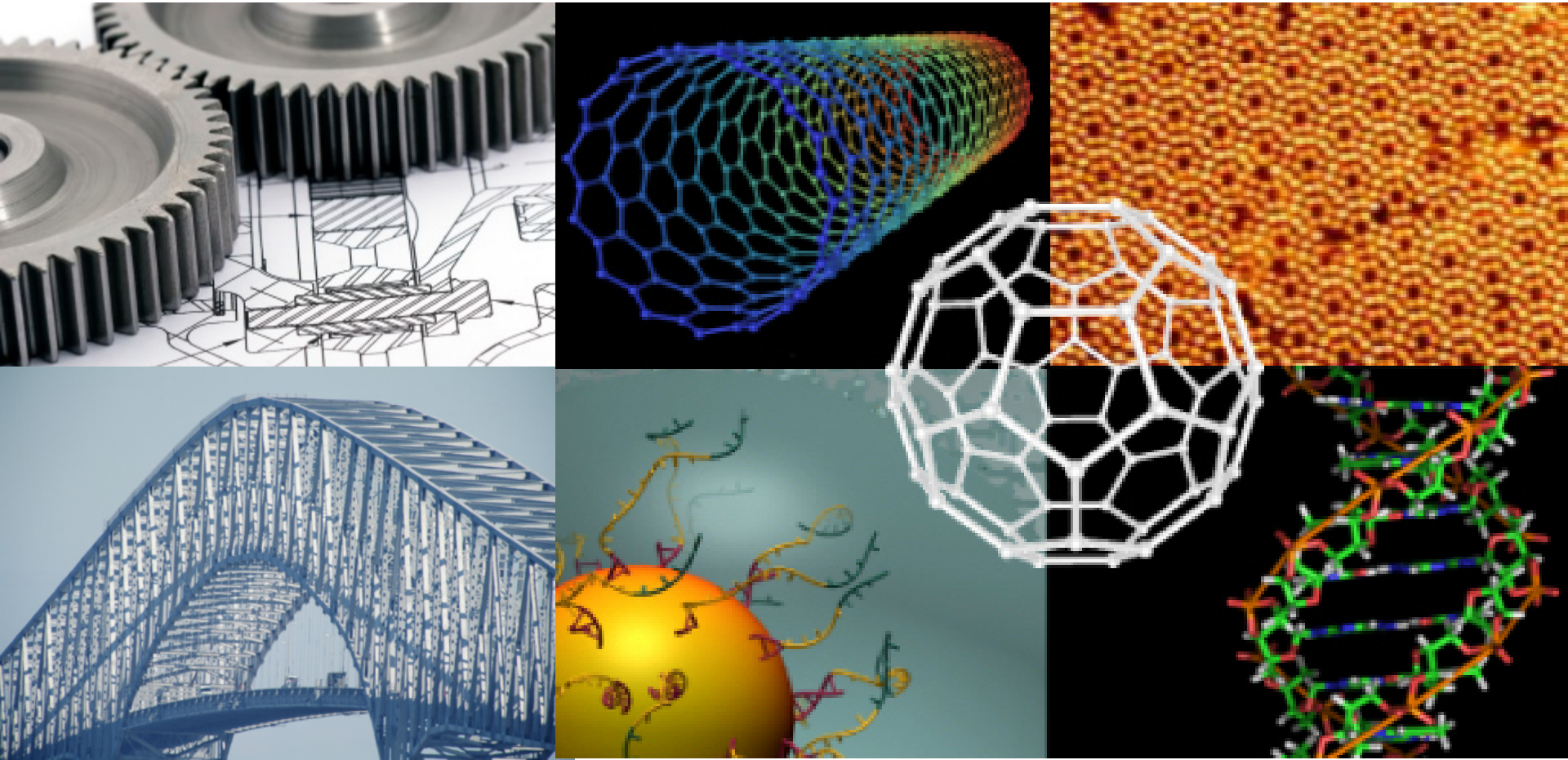
Earth-Space

Life

Impact on Instruction and Learning



Greater integration with engineering and technology



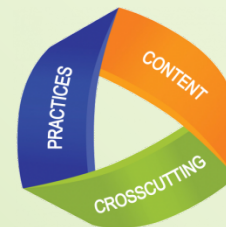
Impact on Instruction and Learning



Greater integration of and focus on human-related content



Impact on Instruction and Learning



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**Improving Science Education
Through Three-Dimensional
Learning**

KEYWORD SEARCH

BY PRACTICE

BY GRADE

BY CROSSCUTTING CONCEPT

BY DISCIPLINARY CORE IDEA

Impact on Instruction and Learning



NSTA National
Science
Teachers
Association

NGSS@NSTA
STEM STARTS HERE

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<http://ngss.nsta.org>

Developing and U
Developi



This is what
tomorrow's science
classroom looks like.

Phenomena & Storylines



Phenomena & Storylines

A group of people are shown in a forest setting with autumn foliage. A man in the background has a surprised expression. In the foreground, a woman is smiling. A large blue-bordered box with a white background contains the website URL.

www.untamedscience.com

<https://www.youtube.com/user/UntamedScience>

Phenomena & Storylines

PHENOMENA FOR NGSS

Creating the Next Generation of Student Engagement

PHENOMENA

SUBMIT PHENOMENA

WHY USE PHENOMENA

HOW TO USE PHENOMENA

EXAMPLE CONNECTIONS

ABOUT

www.ngssphenomena.com



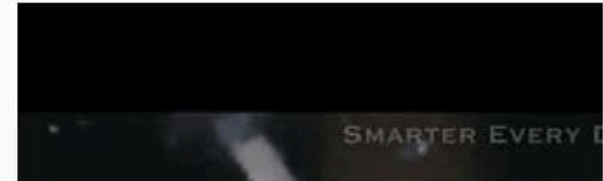
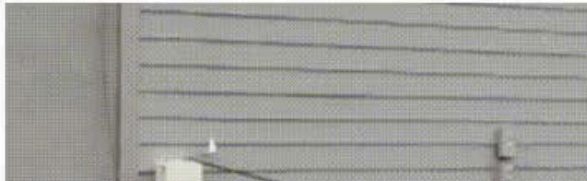
TREEHOPPER ANT



WHO MOVES - SKY OR US?



CANDLE 'TRICK'



Phenomena & Storylines



www.nextgenstorylines.org

Across the country, districts, schools, and teachers are working on implementing a new vision for science classrooms based on the Framework for K-12 Science and NGSS: classrooms in which teachers support students in science and engineering practices to build and use science ideas to explain real phenomena and solve real problems.



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